

## CLAIMS

What is claimed is:

1. A method of correcting the radial runout variation across the peripheral surface of the tread elements of a tire; comprising the steps of:  
locating the tire's center axis;  
rotating the tire about its axis and locating and measuring the radial high point and radial low point on the tread elements peripheral surface in each of several circumferential planes between the tread shoulders;  
inputting the measurements into a computer and comparing the measurements to sorted profile algorithms, selecting the optimum profile algorithms for establishing a virtual tread profile template, and  
engaging a tread removal means to remove tread rubber to match the tread profile to the virtual tread profile template.
2. The method of Claim 1 wherein the measurements are taken in at least three circumferential planes.
3. The method of Claim 2 wherein the measurements are taken in at least five circumferential planes.
4. The method of Claim 2 wherein the tire being measured and corrected is an off-the-road tire.
5. The method of Claim 1 further includes controlling the movement of the tread removal means by directing the movements to follow the virtual template.
6. The method of Claim 1 further includes controlling the rotational movement of the tire as the tread removal means traverses across the tread.
7. An apparatus for measuring a tire tread profile and truing said tire comprises  
a base having linear bearing guide rails for directing movement in an X

direction parallel to the axis of the tire to be measured and trued;

a profile measuring device mounted on a movable sled, the sled having linear bearings attached to the guide rail bearings;

a truing device assembly mounted on a movable carriage, the carriage having linear bearings attached to the guide rail bearings; and

a tire rotation device.

8. The apparatus of claim 7 further comprises:

an electronic control system including a computer and software for compiling measurement data and establishing a virtual template to true the tire; the control system directs the movement of the truing device assembly.

9. The apparatus wherein the truing device assembly includes a truing cutter, truer device assembly having a Y direction movable carriage mounted to the X direction movable sled.

10. The apparatus of claim 9 wherein the truer cutter includes a Z axis pivot system.